

Arcos Industries offers customers dependable welding solutions



Located in Mount Carmel, Pennsylvania, USA, Arcos Industries has been manufacturing quality welding consumables in stainless steel and high nickel alloys for 96 years. In 2006 the shareholders of Select-Arc Inc., a Fort Loramie, Ohio-based company specializing in flux cored and metal cored tubular welding electrode products, acquired Arcos. Arcos traditionally offered bare wire and SMAW electrodes for stainless steels and Ni-based alloys. Collaboration across the Arcos and Select-Arc platform provides enhanced technical support and expands their product portfolio. Arcos now has expanded its portfolio of quality products to include metal cored (MCAW) and flux cored (FCAW) versions of these alloys. *Stainless Steel World* had the pleasure of talking with Mr. Harry Wehr, general manager for Arcos, Ms. Beth Haupt, sales manager for Arcos and Dr. Ben Pletcher, technical director for Arcos about Arcos Industries' impressive milestones, product offerings and presence in the global marketplace.

By Candace Allison

Storied History

Arcos Industries began operations in 1919 supplying hand-dipped coated electrodes for stainless and

specialty steels to various high tech manufacturing industries. Rapid growth throughout the 1930s and 1940s led to Arcos moving from their original

location in Philadelphia to their current headquarters in Mount Carmel. Harry Wehr explained that throughout the company's rich history, Arcos has



The recently acquired Troy facility for Arcos and Select-Arc located in Troy, Ohio.

achieved many impressive milestones in the industry. Arcos stainless steel electrodes became the first stainless coated electrode to be approved by the US Department of the Navy. Close collaboration between the Arcos Research & Development department and the US Navy continued over the years, leading to the development of several specialized coated electrodes for welding armor plate and Navy Special Treatments Steels (STS). Later achievements include Arcos becoming the world's first electrode manufacturer to receive the ASME Nuclear Quality System Certificate. More recently, Arcos expanded and diversified the product offering with tubular welding products for nickel-based, stainless steel, and low-alloy products. All Arcos products are manufactured in the United States. "Since 2006 Arcos has really been able to capitalize on adding the tubular wires to our product portfolio, which

complements our existing high quality solid wire and stick electrodes so well," stated Wehr. He continued, "In the last eight years our sales have grown 300 percent." Wehr believes that the expanded product offering, along with the excellent customer service and specialized technical support provided, makes Arcos primed for continued growth in numerous markets across the globe.

High-quality products

The Mount Carmel headquarters is a technologically advanced manufacturing facility fully equipped with acid and ultrasonic cleaning, wire drawing, annealing and chemical testing capabilities. This enables Arcos to ensure the chemical and dimensional quality, as well as full traceability of the welding products from the original raw material down through the final finished product. Arcos' laboratory facilities can



Mr. Dale Stager, President of Arcos Industries, LLC and Select-Arc, Inc.

provide welding and testing analysis onsite in accordance with AWS, Military, Nuclear and customer specifications. Arcos' product offerings include welding consumables and thermal spray materials in a wide variety of stainless steel, nickel-based and copper-nickel alloys. What has historically set Arcos apart from competitors is not only the exceptional level of quality manufacturing, but also the ability to manufacture specialized products per unique customer requirements. SMAW stainless electrodes can be manufactured to meet special chemistry or ferrite contents in accordance with client specifications. An example of this specialization would be making low ferrite 316L for cryogenic applications. With the experience of customizing chemistries for SMAW electrodes, Arcos has been able to utilize this same approach with tubular wires. Technical Director Ben Pletcher states, "The versatility of flux cored and metal cored wires has enabled Arcos to truly diversify our product offerings across an alloy type. Tubular wires allow for easy alloy modification to meet specific mechanical properties and chemistry requirements without the typical lot size requirements of solid wire." A good example of this versatility within an alloy is with Type 316 stainless steel. Arcos offers 316L, 316H, 316LSi, and a 316L Cryo product for low temperature use in tubular wire, as well as SMAW electrodes.



X-ray alloy verification.

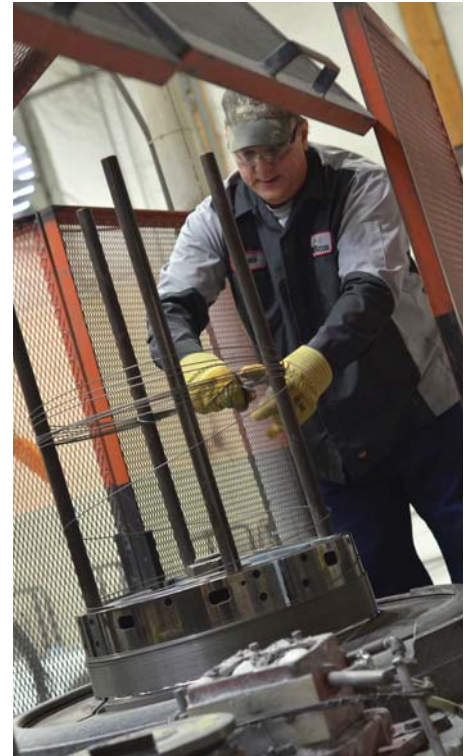
All Arcos electrodes are available in a wide range of diameters, packages and electrode types to fit the broad needs of world markets. In addition to meeting all AWS specifications, Arcos holds many additional approvals and quality certificates including the American Society of Mechanical Engineers (ASME) Nuclear Certificate, the International Organization for Standardization (ISO)

9001:2008, Det Norske Veritas (DNV), American Bureau of Shipping (ABS), Canadian Welding Bureau (CWB), the Military's Inspection System and the U.S. Navy's Qualified Products List (QPL).

Technological innovation

As a company, Arcos understands that in order to manufacture quality products for clients, investing in state-of-the-art facilities and equipment are imperative. Ben Pletcher detailed that some of the most recent technological improvements have revolved around tubular consumables for the constantly growing global market, such as Arcos' metal cored products. These products are an improvement over solid wire since they allow for higher welding travel speeds, making the components more cost-efficient. Metal cored products are especially important to the automotive sector, where there is always a greater demand for lighter components, faster manufacturing and improved efficiency.

Pletcher further explained that Arcos and Select-Arc are sharing a recently acquired facility in Troy, Ohio. This LEED certified building houses 80,000 square feet of manufacturing space complete with R&D, analytical testing and metallurgical laboratory facilities. Clients will be able to come in for welding metallurgy courses, weld training and have the ability



Initial check on drawn nickel welding wire.

to perform product mock-ups in the weld lab. The R&D welding laboratory includes state-of-the-art weld booths, mechanized welding equipment, and multiple robotics cells with the ability to simulate a wide variety of manufacturing environments. Over seven million US dollars have been invested in this facility with the goal being that these added technological advancements will help increase Arcos' manufacturing and development capabilities, allowing for better targeting of the consumable needs in Europe and other international markets.

Complete welding solutions

During our discussion we quickly learned that Arcos is much more than just a welding consumable manufacturer. Pletcher clarified, "The important thing is we don't just make wire, we don't just make consumables, we're really there to provide welding solutions to clients." Arcos specializes in high performance filler metals and maintains close relationships with many of the international welding power source manufacturers including SKS, Fronius, Panasonic, OTC and the American manufacturers. These strong relationships allow Arcos to integrate all of the emerging waveform and wire manipulation technologies into their product development and client application support. This enables Arcos to supply the highest quality stainless



Arcos Team Planning Session – (left to right) – Harry Wehr, General manager; Dallas Miller, Accounting Manager; Trevor Schrader, Quality Manager; Patty Shipe, Production Control Manager; Tom Kane, Production Manager; Ken Freed, Engineering Manager; Beth Haupt, Sales Manager.

and nickel electrodes with exceptional weldability on any power source. He maintained that an important factor is being able to sell customers complete welding solutions. Arcos offers comprehensive technical support by employing a full staff of experienced welding engineers, metallurgists and technical experts that can provide hands-on training assistance. Welder training, procedure and application support can be provided in Fort Loramie, Houston, Troy or on-site at the end-users facility. This on-site technical support is also not limited to North America. Arcos can send an engineer or technical specialist to any location, whether it be in China, India, Australia or Germany. As Pletcher aptly said, "Arcos provides the type of technical support that customers don't commonly receive from manufacturers."



High speed spooling.

Deliverables for the European markets

Arcos is continuing to grow its existing footprint in the European market by targeting its product offering to European manufacturing needs. Arcos has a large portfolio of duplex, super duplex and nickel products, which Pletcher believes would be of particular interest to the European market. Within these product lines, Arcos

offers everything including solid wire, SMAW electrodes, MCAW and FCAW consumables.

Pletcher detailed, "What we offer in tubular products for the duplex and nickel alloys are unique and provide the European market with additional options to improve their productivity and competitiveness in value-added manufacturing."

In addition to targeted product offerings, there is also a lot of collaboration taking place with automotive manufacturers using the metal cored products. For example, an Arcos welding engineer has recently spent several weeks in Europe working on developing metal cored products and procedures to help improve manufacturing productivity. Beth Haupt confirmed, "Arcos has had success in the European market not only because of the products we offer, but also because of the product development and collaboration we've done with our customers."

Future growth and distribution

Arcos maintains fully stocked warehouses in Mount Carmel, Fort Loramie and Houston, Texas with their portfolio of solid wire, SMAW, FCAW and MCAW electrodes in support of their global distribution network. Their products are available internationally through a dedicated welding distribution network that keep the items stocked in various warehouses worldwide. Arcos is keen to continue developing key business and distribution relationships around the globe.

Within North America and overseas they deal with large international chains, regional distribution, and independent local distributors. These distributors are fully supported by the Arcos technical sales team that delivers initial support to the end-user. For more complex



Finish sizing and cleaning for auto motive wire.

or challenging applications, Arcos will provide its full support team of metallurgical, welding and applications engineers.

Looking ahead to 2015 and beyond, Arcos is focusing on increasing its sales in the Oil & Gas, offshore, turbine engines and automotive industries. Arcos believes that their historical expertise in the stainless and nickel alloy market, coupled with their continued development in tubular FCAW and MCAW consumables, has them poised for major growth opportunities in the European and global marketplace.

At the end of the day, Wehr maintains that the focus is always on the customer "because without them we're not in business. We cater to their needs. That is something we emphasize and always have."

Facts & Figures

Name:	Arcos Industries, LLC
Headquarters:	394 Arcos Drive, Mount Carmel, Pennsylvania 17851, United States
Employees:	Approximately 250
Products:	Low alloy, Stainless steel and Ni-based welding filler metals available in SMAW, GTAW, GMAW, SAW, FCAW and MCAW product forms.
Industry markets:	Oil & Gas, Chemical, Energy, Petrochemical, Automotive, Food Processing, Shipbuilding, Nuclear, Military, Railcar.
Website:	www.arcos.us